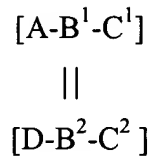


APPENDIX A

25. An empty polyspecific MHC complex comprising an sc-MHC class II molecule comprising linked in sequence an MHC β chain-peptide linker-MHC α chain, the MHC molecule having the general formula:



wherein,

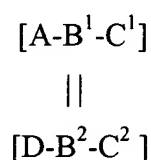
- a) A represents at least one empty sc-MHC class II molecule,
- b) B1, B2 are each independently a joining molecule,
- c) C1, C2 are each independently an effector molecule or -H, and
- d) D represents at least one empty sc-MHC class II molecule, ligand binding molecule or -H.

26. A polyspecific MHC complex comprising an empty sc-MHC class II molecule comprising a peptide binding groove, the complex being represented by the formulae A-B-C, B-A-C, or A-C-B, wherein A is at least one sc-MHC class II molecule, B is a joining molecule and C is an effector molecule or -H, provided that when the complex is represented by A-C-B, -C- is not -H.

27. A loaded polyspecific MHC complex formed by contacting the polyspecific MHC complexes of claim 25 or 26 with a presenting peptide under conditions which form a specific binding complex between the presenting peptide and at least one of the empty sc-MHC class II molecules.

28. A polyspecific MHC complex fusion molecule comprising an sc-MHC molecule

with peptide binding groove, the MHC molecule comprising linked in sequence an MHC β chain-peptide linker-MHC α chain, the complex being represented by the following formula:



wherein,

- a) A represents at least one empty sc-MHC class II molecule comprising a recombinantly fused presenting peptide,
- b) B1, B2 are each independently a joining molecule,
- c) C1, C2 are each independently an effector molecule or -H, and
- d) D represents at least one empty sc-MHC class II molecule, ligand binding molecule or -H.

29. A polyspecific MHC fusion molecule comprising a sc-MHC class II molecule comprising a peptide binding groove, the complex being represented by the formulae: A-B-C, B-A-C, or A-C-B, wherein A is at least one sc-MHC class II molecule comprising a recombinantly fused presenting peptide, B is a joining molecule and C is an effector molecule or -H, provided that when the complex is represented by the formulae: A-C-B, -C- is not H.

38. The polyspecific MHC complex of any of claims 25, 26, 28, or 29, wherein the polyspecific MHC complex comprises the complex in Figure 9B.

39. The polyspecific MHC complex of any of claims 25 or 28, wherein the joining molecules are each selected from the group consisting of a helix-turn-helix motif and a dendrimer particle.

40. The polyspecific MHC complex of any of claims 26 or 29, wherein the joining

molecule is selected from the group consisting of a helix-turn-helix motif and a dendrimer particle.

41. The polyspecific MHC complex of any of claims 25 or 28, wherein the ligand binding molecule is selected from the group consisting of an immunoglobulin, a single-chain antibody, an Fv, and a receptor ligand.

42. The polyspecific MHC complex of claim 41, wherein the immunoglobulin, single-chain antibody, or Fv is capable of binding a cell surface target selected from the group consisting of CD2, CD3, CD4, CD8, CD28, CD40, CD45, CTLA4, and Fas.

43. The polyspecific MHC complex of claim 41, wherein the receptor ligand is selected from the group consisting of FasL, CD80, and CD86.

44. The polyspecific MHC complex of any of claims 25 or 28, wherein the effector molecules are each selected from the group consisting of a cell toxin other than ricin or diphtheria toxin, a chemotherapeutic drug, a radionuclide, a protein tag, a hormone, a fluor, an enzyme, an enzyme substrate, a cofactor, an inhibitor, a ligand, a hapten, biotin, a carbohydrate, and a fatty acid.

45. The polyspecific MHC complex of claim 44, wherein the protein tag is selected from the group consisting of 6xHIS, EE epitope, and myc epitope.

46. The polyspecific MHC complex of any of claims 26 or 29, wherein the effector molecule is selected from the group consisting of a cell toxin other than ricin or diphtheria toxin, a chemotherapeutic drug, a radionuclide, a protein tag, a hormone, a fluor, an enzyme, an enzyme substrate, a cofactor, an inhibitor, a ligand, a hapten, biotin, a carbohydrate, and a fatty acid.

47. The polyspecific MHC complex of claim 46, wherein the protein tag is selected from the group consisting of 6xHIS, EE epitope, and myc epitope.